# **Antarctic Science**

David W.H. Walton, Stephen D. Mobbs and Michael R. A. Thomson

Volume 3

1991

Blackwell Scientific Publications

Oxford London Edinburgh Boston Melbourne

Berlin Paris Vienna

#### © 1991 British Antarctic Survey

Authorization to photocopy for internal or personal use of specific clients is granted by the British Antarctic Survey for libraries and other users registered within the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$05.00 per copy is paid directly to the CCC, 27 Congress Street, Salem, MA 01970, USA. This consent does not extend to other kinds of copying, such as copying for general distribution for advertising or promotional purposes, for creating new collective works or for resale. Special requests should be addressed to the Editor 0954 1020/91 \$05.00

Published by Blackwell Scientific Publications Ltd
Osney Mead, Oxford OX2 0EL, UK
25 John Street, London WC1N 2BL, UK
23 Ainslie Place, Edinburgh EH3 6AJ, UK
3 Cambridge Center, Suite 208, Cambridge, MA 02142, USA
54 University Street, Carlton, Victoria 3053, Australia
Librairie Arnette SA, 2, rue Casimir-Delavigne, 75006 Paris, France
Blackwell Wissenschaft-Verlag GmbH, Meine Kestrasse 4, D-1000 Berlin 15,
Germany
Blackwell MZV, Feldgasse 13, A-1238 Wien, Austria

ISSN 0954 1020

## Contents

No. 1 20 February 1990

Guest editorial	1	The cryptostigmatid mite Halozetes belgicae (Michael	al) in
Editorial change	2	the maritime Antarctic.	,1) III
REVIEW—Ecological considerations of Antarctic ozone depletion. D. KARENTZ	3	L.B. MINTO, G.J. SHEPHERD & M.B. USHER  PAPERS—EARTH SCIENCES AND GLACIOLOG A late Holocene lake sediment sequence	53 Y
PAPERS— LIFE SCIENCES AND OCEANOGRAPHY Consumption of Antarctic krill by Minke whales. A.J. ARMSTRONG & W.R. SIEGFRIED	13	from Livingston Island, South Shetland Islands, with palaeoclimatic implications. S. BJÖRCK, H. HÅKANSSON, R. ZALE, W. KARLÉN & B.L. JÖNSSON	61
The diet of Antarctic petrels, cape petrels and southern fulmars rearing chicks in Prydz Bay. J.P.Y. ARNOULD & M.D. WHITEHEAD	19	Aqueous geochemistry of major constituents in the Alph River and tributaries in Walcott Bay, Victoria Land, Antarctica. S.J. DE MORA, R.F. WHITEHEAD & M. GREGORY	73
Muscle growth in the Antarctic teleost, <i>Notothenia</i> neglecta (Nybelin).  J.C. BATTRAM & I.A. JOHNSTON	29	Late Eocene gadiform (Teleostei) skull from Seymou Island, Antarctic Peninsula. J.T. EASTMAN & L. GRANDE	ır 87
Morphological characterization of Oscillatoriales (Cyanobacteria) from Ross Island and southern Victoria Land, Antarctica, P.A. BROADY &		The bivalve Aulacomyella from the Early Tithonian (Late Jurassic) of Antarctica. S.R.A. KELLY & P. DOYLE	97
A.L. KIBBLEWHITE	35	Book reviews	109
A diel study of the neuston and plankton bacteria in an Antarctic pond. J.S. MAKI &		Noticeboard Instructions for authors	115 119
R.P. HERWIG	47		

### No. 2 24 May 1991

Guest editorial	123	PAPERS — EARTH SCIENCES AND GLACIOLO Numerical modelling of ice shelf dynamics	GY
REVIEW — Reproduction in Antarctic notothenioid fish K-H. KOCK & A. KELLERMANN	125	J. DETERMANN	187
PAPERS — LIFE SCIENCES AND OCEANOGRA Unprotected larval development in the Antarctic sca Adamussium colbecki (Mollusca: Bivalvia: Pectinida P.A. BERKMAN, T.R. WALLER & S.P. ALEXANDER	llop	The age, petrogenesis and emplacement of the Dalmatian Granite, H.U. Sverdrupfjella, Dronning Maud Land, Antarctica G.H. GRANTHAM, A.B. MOYES & D.R. HUNTER	197
A new <i>Epimeria</i> (Crustacea, Amphipoda, Paramphithoidae) from the Weddell Sea C. DE BROYER & M. KLAGES	159	U-Pb zircon dating of Proterozoic igneous charnockites from the Mawson Coast, East Antarctica D.N. YOUNG & L.P. BLACK	205
Distribution and abundance of euphausiid larvae in the Prydz Bay region, Antarctica G.W. HOSIE	167	Debate — Preliminary results of seismic reflection investigations and associated geophysical studies in the area of the Antarctic Peninsula R.D. LARTER/THE GRAPE TEAM	217
Habitat selection by marine mammals in the marginice zone C.A. RIBIC, D.G. AINLEY & W.R. FRASER	al 181	Book reviews Noticeboard	223
			22

### No. 3 24 August 1990

Guest editorial		Petrological and geochemical constraints on the genesis of Mesozoic-Cenozoic magmatism of King George	
REVIEW — Hydrocarbons in the Antarctic marine environment G.C. CRIPPS & J. PRIDDLE	233	Island, South Shetland Islands, Antarctica K. BIRKENMAJER, L. FRANCALANCI &	
PAPERS — LIFE SCIENCES AND		A. PECCERILLO	293
OCEANOGRAPHY Population dynamics of Sterechinus antarcticus (Echinodermata: Echinoidea) on the Weddell Sea		First articulated teleost fish from the Paleogene of West Antarctica A. JERZMANSKA	309
shelf and slope, Antarctica T. BREY	251	Interpretation of geomagnetic anomalies in Dronning	
The spatial distribution of microalgae on Antarctic fellfield soils M.C. DAVEY & K.J. CLARKE	257	Maud Land, East Antarctica S. WAGNER & H. LINDNER	317
Freshwater stream ecosystems of James Ross Island, Antarctica I. HAWES & P. BRAZIER	265	Chimaeroid fish remains from Seymour Island, Antarctic Peninsula D.J. WARD & L. GRANDE	323
Ecological and physiological investigations in		Short note	
continental Antarctic cryptogams II. Moisture relations and photosynthesis of lichens near Casey Station, Wilkes Land L. KAPPEN & M. BREUER 27		An ornithopod dinosaur from the Late Cretaceous of West Antarctica J.J. HOOKER, A.C. MILNER & S.E.K. SEQUEIRA	331
Distribution and abundance of post-larval krill	215	PAPERS — ATMOSPHERIC SCIENCES	331
(Euphausia superba Dana) near Prydz Bay in summ with reference to environmental conditions	Classification of Antarctic surfaces using AVHRR data: a multispectral approach		
J.C. MIQUEL	279	G. ZIBORDI & G.P. MELONI	333
PAPERS — EARTH SCIENCES AND GLACIOLOGY		Book reviews Noticeboard	339 345
No Guest editorial	o. 4 22 No	ovember 1991 (southern beech) within 500 kilometres of the South	
		Pole L.H. BURCKLE & E.M. POKRAS	389
PAPERS — LIFE SCIENCES AND OCEANOGRA Krill fishing activity in the southwest Atlantic	APHY	Petrogenesis of orthogneisses in the Dry Valleys	
I. EVERSON & C. GOSS	351	region, South Victoria Land S.C. COX &	405
The diet of Antarctic fur seals during the late autum	nn	A.H. ALLIBONE	405
and early winter around Heard Island K. GREEN,	250	Alkaline-ultramafic lamprophyre dykes from the Vestfold Hills, Princess Elizabeth Land (East	
R. WILLIAMS & H.R. BURTON	359	Antarctica): primitive magmas of deep mantle origin	n
Spatial distribution of Antarctic shrimps (Crustacea Decapoda) by underwater photography J. GUTT, M	C.P. DELOR & N.M.S. ROCK 41	419	
GORNY & W. ARNTZ	363	On the thermohaline circulation beneath the Filchne	
PCBs and organochlorine pesticides in phytoplank		Ronne Ice Shelves H.H. HELLMER & D.J. OLBERS	433
and zooplankton in the Indian sector of the Souther	PAPERS — ATMOSPHERIC SCIENCES Variations in the total column abundances of atmospheric	oberio	
Ocean, C.R. JOIRIS & W. OVERLOOP	371	Variations in the total column abundances of atmospheric carbon monoxide and methane in the polar regions	
Limnological properties of Antarctic ponds during winter freezing S. SCHMIDT, W. MOSKAL.		L.N. YURGANOV & V.F. RADIONOV	443
S.J. DE MORA, C. HOWARD-WILLIAMS &		Book reviews	451
W.F. VINCENT	379	Recent meetings Noticeboard	456 459
PAPERS — EARTH SCIENCES AND GLACIOL Implications of a Pliocene stand of Nothofagus	OGY	Index	461

